621.1

~~321.1a~~

ANNUAL INSECT CONTROL REPORT, DISTRICT 1, SEASON OF 1926

J.C. EVENDEN
JANUARY 26, 1927

FILE COPY FOREST INSECT LABORATORY, STANFORD UNIVERSITY CALIFORNIA

321.1a

UNITED STATES DEPARTMENT OF AGRICULTURE

Bureau of Entomology
Forest Insect Investigations

S
Insect Control, D-1
(Annual Report, 1926)

January 26, 1927.

ANNUAL INSECT CONTROL REPORT - DISTRICT ONE

SEASON - 1926.

PAGE

I. CONDITIONS AS REFLECTED BY FOREST REPORTS ---------- 1

II. CHARACTER OF 1926 INFESTATION ---------- 2

III. ACTIVITIES OF THE 1926 SEASON ---------- 2

A. SURVEYS CARRIED OUT IN COOPERATION WITH BUREAU OF ENTOMOLOGY ---------- 2

1. Bitterroot and Beaverhead National Forests ----- 2
2. Kootenai National Forest ---------- 2

B. CONTROL PROJECTS ---------- 2

1. Beaverhead and Bitterroot Project ---------- 2
2. Kootenai National Forest ---------- 3
3. Coeur d'Alene National Forest ---------- 3

C. RESEARCH STUDIES BY THE BUREAU OF ENTOMOLOGY ------- 3

IV. PLANS FOR THE SEASON OF 1927 ---------- 3

1. Bitterroot and Beaverhead Control Project ------ 3
2. Kootenai National Forest ---------- 4

V. ESTIMATES FOR FISCAL YEAR 1928 ---------- 4

A. SURVEYS ---------- 4

B. CONTROL WORK ---------- 4

S
Insect Control, D-1
(Annual Report).

January 26, 1927.

ANNUAL INSECT CONTROL REPORT

I. CONDITIONS AS REFLECTED BY FOREST REPORTS:

The annual insect reports from the forests of District I have been received and the data tabulated. The information received portrays in an excellent manner the status of the insect conditions throughout the District. Each year this information becomes more dependable as the rangers secure experience in their examinations and the preparations of their reports. At the Coeur d'Alene Station of the Bureau of Entomology a valuable historical file is being compiled from these reports.

A summary has been made of the ranger reports which is attached to this report. Ranger reports were received on 56 areas where there was no infestation or it was of such a character that their inclusion within this summary was not warranted. Four forests did not submit ranger reports but gave brief statements of negative conditions.

The status of the spruce budworm and Dendroctonus situation within the District is shown in the following tabulation of 70 reports:

MOUNTAIN PINE BEETLE

Increasing	13
Normal	13
Decreasing	11
Total	37

WESTERN PINE BEETLE

Increasing	--
Normal	2
Decreasing	3
Total	5

DOUGLAS FIR BEETLE

Increasing	2
Normal	3
Decreasing	4
Total	9

SPRUCE BUDWORM

Increasing	12
Normal	3
Decreasing	9
Total	24

Twelve reports were received on insects other than those listed above. Nine ranger reports recommended control measures, seven were questionable and fifty-six did not.

The most serious infestations of the mountain pine beetle in lodgepole pine are those reported from the Beaverhead, Deerlodge and Bitterroot National Forests. This is especially true of the Bitterroot where the losses in both lodgepole pine and yellow pine are tremendous. Increasing infestations of the mountain pine beetle in white pine were again reported

from the St. Joe, Coeur d'Alene and Pend Oreille Forests, while new outbreaks appeared on the Flathead and Kootenai. On the Bitterroot National Forests outbreaks of the Douglas Fir beetle were reported. Increasing outbreaks of the spruce budworm were again reported from the Nezperce and the Helena National Forests with a new outbreak appearing throughout the Selway. On the Absaroka, Lolo and Madison Forests, the spruce budworm epidemics were again reported as decreasing. Expert examinations of specific areas within the Coeur d'Alene, Nezperce, Pend Oreille and Bitterroot National Forests were requested.

II. CHARACTER OF THE 1926 INFESTATION:

Severe losses of timber during the 1926 season resulted from Dendroctonus killing in lodgepole pine, white pine, yellow pine and Douglas Fir. Much white fir and alpine fir was killed throughout the western forests by Scolytus subscaber. The destruction of yellow pine reproduction by Ips which was so prevalent during the 1925 season has practically disappeared. Though present in other regions, the most serious outbreak of the spruce budworm now exists on the Nezperce and Selway National Forests. The pine sawfly epidemic on the Madison National Forest has practically disappeared but the needle tyer is still in an epidemic status.

III. ACTIVITIES OF THE 1926 SEASON.

A. Surveys carried out in cooperation with the Bureau of Entomology.

1. Bitterroot and Beaverhead National Forests.

In connection with the Bitterroot - Beaverhead control project a survey of the infested areas was made during August and September. This survey was necessary in order to determine the status and extent of the 1926 infestation for the purpose of planning control measures of 1927.

2. Kootenai National Forest.

During August a survey was made of the Pete Creek control project to determine the results obtained from the 1926 control operation and to secure a foundation upon which to base control measures in 1927.

B. Control Projects.

1. Beaverhead and Bitterroot Project.

During the season of 1926 control measures were instituted in accordance with the plan as previously adopted for this project. This plan called for the institution of control measures within the Big Hole Basin and a zone of defense consisting of the Tolan and Mink Creek drainages lying across the head of the infestation on the East Fork of the Bitterroot River. The infested trees within these regions were to be treated each year until the infestation on the East Fork of the Bitterroot no longer existed as a potential source of reinfestation.

During the past season approximately $17,000 was spent in carrying out the provisions of this plan. This allotment permitted a fairly efficient clean up of the area, but was not sufficient to treat all of the infested trees. During the past season the adult beetles swept into the

areas cleaned by control measures in such numbers that there will be more trees to treat in 1927 than there were in 1926.

2. Kootenai National Forest.

In the spring of 1926 control measures were instituted in the Pete Creek drainage of the Yaak River for the reduction of an outbreak of the mountain pine beetle in an isolated area of white pine. This project was regarded as an experiment, for a few miles to the north there existed a severe infestation of this insect in lodgepole pine. Though no physical connection between these two infestations existed there could be no assurance that the inception of the outbreak in white pine did not come from the lodgepole a few miles away.

Approximately $2,500 was spent in treating 693 infested trees. Following the control measures the 1926 attack was but 38 percent of the 1925, or the volume actually treated.

3. Coeur d'Alene National Forest.

Control measures were instituted on the Independence Creek Project in 1924 with maintenance work being conducted during the 1925 and 1926 season. The purpose of this experimental control project was to test the possibility of economically reducing what we are prone to call a normal loss or infestation by the mountain pine beetle in white pine. Based upon the volume of timber destroyed by the 1923 insect attack which was the volume treated in 1924, a reduction of 61.026 percent followed the 1924 and 88.018 percent the 1925 control measures. Following the 1925 control measures the infestation was reduced to seven 1925 attacked trees. These trees were treated in 1926 and represent but a fractional part of one percent of the total volume of the area. Unfortunately this area was burned by the 1926 fires.

C. Research studies by the Bureau of Entomology.

During the past season intensive studies of the mountain pine beetle infestation in lodgepole pine and yellow pine on the East Fork of the Bitterroot River was continued. Though all phases of this problem are being studied the work is directed towards the development of better methods of artificial control. During the past season preliminary steps were taken in the institution of similar studies of the mountain pine beetle in white pine. Data was also secured from permanent sample plots of defoliated lodgepole pine and yellow pine which were instituted for the purpose of studying the susceptibility of defoliated trees to subsequent insect attack.

IV. PLANS FOR THE SEASON OF 1927.

1. Bitterroot - Beaverhead Control Project.

At the present time the plan for the continuation of this project during the season of 1927 are somewhat unsettled due to the uncertainty of the funds which will be available. From $75,000 to $90,000 will be required during the 1927 season in order to fulfill the conditions of the plan of control as previously agreed upon.

As stated in previous reports this project was planned on an experimental basis. An attempt is being made to hold the regions on two sides of the severe epidemic which exists on the East Fork of the Bitterroot until such a time as that longer no longer exists. This task is and will continue to be a difficult and expensive one. The infestation is spreading each year into the areas cleaned by control work and will continue to increase until the source of reinfestation begins to exhaust itself. This may require two, three or five years and the amount of money involved in the continuation of this project is problematical.

2. Kootenai National Forest.

Control measures have been recommended for the continuation of the Pete Creek control project during the 1927 season. $1,000 has been allotted for this year.

V. ESTIMATES FOR FISCAL YEAR 1928.

A. Surveys.

It will be necessary to conduct a rather extensive survey of the Bitterroot-Beaverhead project during the months of August and September, 1927. This will be necessary to determine the status of the infestation in order to properly plan the following seasons work. It is rather difficult to make an estimate of the funds which will be required for this survey as that will depend entirely upon its character. A few dollars will be required for a survey of the Pete Creek project on the Kootenai National Forest during October, 1927. A small allotment may be necessary to provide for the expenses of Bureau of Entomology men while on examinations requested by the Forest Service.

B. Control Work.

It would be impossible at this time to give an estimate of the funds which will be required for control work in the spring of 1928.

Elers Koch
Assistant District Forester
Office of Forest Management.

James C. Evenden
Associate Entomologist
Bureau of Entomology.

Approved: January 26, 1927.

Fred Morrell
District Forester.

ABSTRACTS OF 1926 RANGER REPORTS.

IDAHO FORESTS.

Clearwater National Forest.

No reports submitted.

Coeur d'Alene National Forest.*

Falls Creek - M.P.B. attacking white pine - infestation decreasing - first reported in 1925.

Hayden Lake and Beauty Bay - W.P.B. attacking Y.P. - normal infestation - first reported in 1926.

Big Elk Creek - M.P.B. attacking W.P. - infestation increasing - control recommended - first reported in 1925.

Lieberg Creek - M.P.B. attacking W.P. - infestation increasing - control recommended - first reported in 1926.

Little North Fork Drainage - M.P.B. attacking W.P. - infestation increasing - examination requested - first reported in 1925.

Nezperce National Forest.

Along Boise Trail - S.B. attacking W.F., D.F., and E.S. - infestation decreasing - first reported in 1924.

Ranger District No. 2 - M.P.B. attacking Y.P. and L.P.P. - normal infestation - first reported in 1924.

Ranger District No. 3 - S.B., attacking W.F., D.F. and Lar. - infestation increasing - control recommended - first reported in 1924.

Ranger District No. 4 - S.B. attacking W.F., E.S., L.P.P. and Larch - infestation increasing - first reported in 1924.

Elks Summit - S.B. attacking W.F. and D.F. - infestation increasing - examination requested - first reported in 1924.

Orogrande - S.B. attacking W.F. and D.F. - infestation increasing - first reported in 1925.

Beaverhead Creek Basin - S.B. attacking W.F. and D.F. - infestation increasing - examination requested - first reported in 1926.

Bargamin and Otterson Creeks - S.B. attacking W.F. and D.F. - infestation increasing - examination requested - first reported in 1924.

13 Mountain Area - S.B. attacking D.F. - normal infestation - first reported in 1926.

Thompsons Ridge - S.B. attacking D.F. - infestation increasing - first reported in 1926.

Upper Hell's Half Acre Creek - M.P.B. attacking L.P.P. - infestation increasing - first reported in 1926.

Indian Creek - M.P.B. attacking Y.P. - infestation increasing - first reported in 1926.

White Cap Canyon Creek and Selway River Drainage - S.B. attacking E.S. and D.F. - infestation increasing - first reported in 1924.

Coopers Creek, White Cap and Fire Mountain - D.F.B. attacking D.F. - infestation decreasing - first reported in 1925.

*Abbreviations: S.B. - spruce budworm; M.P.B. - mountain pine beetle; W.P.Bm - western pine beetle; D.F.B. - Douglas Fir beetle.

Pend Oreille National Forest.

Copeland District - Dendroctonus attacking Y.P. - examination requested - first reported in 1926.

Smith Creek Drainage - Dendroctonus attacking W.P. - infestation increasing - examination requested - first reported in 1924.

Mission Creek - Dendroctonus attacking W.P. - infestation decreasing - first reported in 1924.

Lightning Creek - M.P.B. attacking W.P. - normal infestation - first reported in 1926.

Selway National Forest.

Lochsa District - S.B. attacking E.S. - infestation increasing - first reported in 1926.

Bear Creek District - S.B. attacking E.S. and W.F. - first reported in 1926.

Middle Fork District - S.B. attacking E.S. - infestation increasing - first reported in 1926.

Iron Mountain - S.B. attacking E.S. - infestation increasing - first reported in 1926.

Indian and Big Creek - S.B. attacking W.F., E.S., and D.F. - first reported in 1926.

St. Joe National Forest.

Wiggett Creek and Lower Fishhook Drainage - W.P.B. attacking W.P. - normal infestation - first reported in 1925.

Fishhook Basin - M.P.B. attacking W.P. - infestation increasing - first reported in 1925.

Eagle Creek - bark beetle attacking W.F. - normal infestation - first reported in 1926.

North Fork Palouse River - M.P.B. attacking W.P. - first reported in 1926.

Johnson Creek - M.P.B. attacking W.P. - first reported in 1926.

MONTANA FORESTS.

Absaroka National Forest.

Ranger District No. 1 - S.B. attacking D.F. - infestation decreasing - first reported in 1924.

Bear Tooth National Forest.

No ranger reports submitted.

Beaverhead National Forest.

No ranger reports submitted.

Bitterroot National Forest.

North End Drainage District - M.P.B. attacking L.P.P. - normal infestation - first reported in 1925.

Rye and Chaffins Creek - D.F.B. attacking D.F. - infestation increasing - examination requested - first reported in 1924.

Rye Creek Drainage - M.P.B. attacking L.P.P. - infestation increasing - first reported in 1926 - examination requested.

West Fork District - M.P.B. attacking L.P.P. - normal infestation - first reported in 1925.

West Fork District - D.F.B. attacking D.F, - infestation normal - examination requested - first reported in 1925.

East Fork District - M.P.B. attacking L.P.P. and Y.P. - infestation increasing - control recommended - first reported in 1924.

East Fork District - D.F.B. attacking D.F. - infestation increasing - control recommended - first reported in 1924.

Blackfoot National Forest.

Wolf Creek - W.P.B. attacking Y.P. - infestation decreasing - first reported in 1924.

Upper Wolf Creek - W.P.B. attacking L.P.P. - infestation decreasing - first reported in 1926.

Tally Lake District - M.P.B. attacking L.P.P. - normal infestation - first reported in 1924.

Tally Lake District - bark beetle attacking balsam fir - normal infestation - first reported in 1925.

Fortine District - M.P.B. attacking L.P.P. and W.P. - normal infestation - first reported in 1921.

Little North Fork District - M.P.B. attacking L.P.P. - first reported in 1925.

Cabinet National Forest.

No ranger reports submitted.

Custer National Forest.

No ranger reports submitted.

Deerlodge National Forest.

Deerlodge District - M.P.B. attacking L.P.P. - infestation decreasing - first reported in 1921.

Deerlodge District - W.P.B. attacking Y.P. - infestation decreasing - first reported in 1921.

Georgetown Lake - M.P.B. attacking L.P.P. - infestation decreasing - first reported in 1926.

Fishtrap Creek - M.P.B. attacking L.P.P. - infestation increasing - control recommended - first reported in 1924.

Flathead National Forest.

Upper South Creek Drainage - M.P.B. attacking L.P.P. - infestation decreasing - first reported in 1925.

Coram Ranger District - M.P.B. attacking L.P.P. - normal infestation - first reported in 1926.

Trout Creek and North - M.P.B. attacking W.P. - infestation increasing - control recommended - first reported in 1926.

Gallatin National Forest.

Brackett Creek - W.P.B. attacking L.P.P. - infestation decreasing - first reported in 1926.

Helena National Forest.

Crow Creek - D.F.B. attacking D.F. - infestation decreasing - first reported in 1925.

Blackfoot Ranger District - M.P.B. attacking L.P.P. - infestation decreasing - first reported in 1922.

Helena Ranger District - M.P.B. attacking L.P.P. - infestation decreasing - first reported in 1923.

Cabin Gulch - S.B. attacking D.F. - infestation increasing - first reported in 1924.

Jefferson National Forest.

Spring Creek - W.P.B. attacking Y.P. - infestation decreasing - first reported in 1924.

Tillinghast Creek - M.P.B. attacking L.P.P. - infestation increasing - first reported in 1925.

Kootenai National Forest.

Pinkham Creek - M.P.B. attacking L.P.P. - first reported in 1926.

Bear Creek - M.P.B. attacking W.P. - infestation increasing - control recommended - first reported in 1926.

Ranger District No. 3 - M.P.B. attacking W.P. - infestation increasing - control recommended - first reported in 1926.

Keeler Creek Drainage - M.P.B. attacking W.P. - normal infestation - first reported in 1926.

Lewis & Clark National Forest.

Sun River District - needle fungus, mistletoe and aphids attacking lodgepole pine reproduction - normal infestation - first reported in 1924.

Muddy Creek and West Fork of Teton - M.P.B. attacking L.P.P. - infestation decreasing - first reported in 1925.

West Fork of Teton - D.F.B. attacking D.F. - infestation decreasing - first reported in 1925.

Dearborn - D.F.B. attacking D.F. - normal infestation - first reported in 1926.

Lolo National Forest.

Squaw and Papoose Creek Drainage - S.B. attacking Spruce and Fir - infestation decreasing - first reported in 1925.

St. Regis District - D.F.B, attacking D.F. - first reported in 1926.-

Madison National Forest.

Indian Creek - D.F.B. attacking D.F. - infestation decreasing - first reported in 1926.

Company Gulch - S.B. attacking D.F. - infestation decreasing - first reported in 1925.

South Fork of Madison River - needle tyer and Ips attacking L.P.P. - infestation increasing - first reported in 1924.

Missoula National Forest.

Philipsburg Ranger District - M.P.B. attacking L.P.P. - infestation decreasing - first reported in 1924.

West Fork District - M.P.B. attacking L.P.P. - normal infestation - first reported in 1925.

Kaniksu National Forest.

No ranger reports submitted.